

## **ON THE STUDY OF RADIOACTIVE GRANITES IN THE EASTERN DESERT OF EGYPT.**

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The Eastern Desert of Egypt is characterized by the presence of Precambrian basement complex, forming a belt of igneous and metamorphic rocks. The basement complex is narrow in its northern part and becomes wider southwards. The granitic rocks are the dominant rock type. They are broadly classified into syn to late tectonic plutonites or older granites and post tectonic younger granites. these rocks constitute about 30% of the plutonic assemblage of the Eastern Desert.

Younger granites are dissected by several fractures and faults with four main trends namely, NW, E-W NNW and ENE. Density of structural lineaments is relatively high in the northern and southern Eastern Desert, while lineaments density is intermediate in the central Eastern Desert, extending parallel to the Red Sea and increases from east to west.

Several granite plutons show high level of radioactivity. Although the background of radioactivity shows slight variations, there is a great difference in the anomalous readings recorded in these rocks. The radiometric anomaly is 10,000 CPS in the north Eastern Desert, 900 CPS in the central Eastern Desert and 4000 CPS in the south Eastern Desert. High level of radioactivity is due to the presence of uranium and/or thorium mineralizations. It is clear that uranium mineralizations are structurally controlled, and the intersection of two or more sets of fractures are suitable sites for the concentration of secondary uranium deposits.